

## ABSTRACT OF THE DISCLOSURE

A fluorescent material of terbium aluminum garnet has a formula  $(\text{Tb}_{3-x-y}\text{Ce}_x\text{Re}_y)(\text{Al}_{5-z}\text{O}_{12}\text{Me}_z)$ , wherein  $0 < x \leq 0.8$ ,  $0 < y \leq 2.0$ ,  $0 < z \leq 1.0$ , wherein Re is at least one of gadolinium (Gd), rubidium (Rb), thulium (Tm),  
5 praseodymium (Pr), samarium (Sm), europium (Eu), dysprosium (Dy), holmium (Ho), erbium (Er), ytterbium (Yb), lutetium (Lu), strontium (Sr), yttrium (Y), vanadium (V), and chromium (Cr), and wherein Me is silicone that is added or substituted. A blue light-emitting diode may be used as an exciting light source for exciting the fluorescent material to generate an  
10 excited light. The excited light and the exciting light are mixed to generate a pure white light. The fluorescent material may be produced by a solid reaction method, a combustion method, or a synchronous precipitation method.